

REMARKS

Claims 1-34 have been presented for examination and have been rejected under 35 U. S. C. §103(a) as being obvious over U.S. Patent No. 5,927,512 to Beffa in view of U. S. Patent No. 5,962,834 to Markman. The reissue declaration filed with this application is also being objected to for failing to contain a statement that all errors which are being corrected in the reissue application up to the time of filing of the declaration arose without any deceptive intent.

The disclosed embodiments of the invention will now be discussed in comparison to the applied references. Of course, the discussion of the disclosed embodiments, and the discussion of the differences between the disclosed embodiments and the subject matter described in the applied references, do not define the scope or interpretation of any of the claims. Instead, such discussed differences merely help the Examiner appreciate important claim distinctions discussed thereafter.

Typically, a large number of identical integrated circuits or "dies" are fabricated on a single wafer of semiconductor substrate. After fabrication, a series of tests is performed and the test data are collected for each die. This test data may be used in subsequent assembly/packaging steps to ensure that only properly functioning die are packaged as integrated circuits. To correlate the various test results with the appropriate die, accurate identification of each die is required, both before and after packaging as an integrated circuit. Many of today's integrated circuits have electronically readable identification information that is programmed into the other integrated circuit itself. Also, ink or laser-scribed marks may be placed on either the die or on an external surface of a package in which the integrated circuit die will be housed. These marks typically indicate information such as date and country of manufacture, product and package types, speed or other test parameters, or manufacturing lot identification.

There are a number of problems with the current practices used to electronically program integrated circuits with identifying information and place optically readable markings on the integrated circuits. For example, the optical markings typically are not associated with the electrically programmed identifying information so that the optical markings do not uniquely identify each integrated circuit die or even each wafer

in which the die was fabricated. As a result, obtaining information that uniquely identifies the particular die within the integrated circuit package typically requires special test apparatus. Furthermore, it is possible in some cases for the optical markings and/or the electrically programmed identifying information to be altered, possibly for improper purposes. However, by associating the electrically programmed identifying information with the optical markings as taught by applicant, significantly greater security is provided. Even if an unauthorized person can electrically reprogram the identifying information and even if that unauthorized person can alter the optical markings, doing so will be of little value unless the unauthorized person knows which optical markings correspond to which the electrically programmed identifying information. However, this correlation is provided by a lookup table, which can remain confidential. Other advantages to electronically programming an integrated circuit with identifying information and also applying optical markings to the integrated circuit that is correlated or associated with the electronically programmed information will be apparent to one skilled in the art.

The two references cited by the Examiner are the patent to Beffa and the patent to Markman. The Beffa patent discloses a method for sorting integrated circuit devices in which a unique identification code is programmed into each of the integrated circuit devices. The identification code can be used during manufacture and test for a variety of purposes, such as sorting the integrated circuits based on reliability, manufacturing process recipe, etc. However, the Beffa patent does not disclose or suggest providing any optically viewable markings to an integrated circuit. Nor does the Beffa patent disclose or suggest any reasons or motivations to add optical markings to an integrated circuit that has been electrically programmed with identifying information.

The Office Action states that the Beffa patent “teaches that code could be read optically,” citing Figure 8 and column 7, line 8+. However, as admitted by the Examiner, the Beffa patent does not teach or fairly suggest *both* applying optically readable identification marks to the integrated circuit *and* also electronically programming the integrated circuit with identifying information; and particularly not optical identification information that has been correlated with the electrically programmed identification information.

The patent to Markman has been cited for disclosing an inventory tracking and management apparatus in which both an optical indicia 18 and an RF code 12 are placed on a tag that is physically coupled to an item, such as clothing. As further described in the patent, the RF tracking means 12 is embedded within a flexible packet 14, and a visual tracking means 18 are located on the surface of the flexible packet 14. However, the RF tracking means 12 and the visual tracking means 18 are not correlated to each other. Instead, both of them are separately associated with a trackable unit of inventory, such as an article of clothing. (*See, e.g.*, column 9, line 6-7 “the packet 14 is associated with the trackable unit”). The Markman patent does not teach or fairly suggest associating the RF tracking means 12 with the visual tracking means 18. In contrast, applicant’s disclosed method associates the electronically programmed identifying information with the optically readable information. Also, the Markman patent does not suggest any other use for the disclosed packet 14, nor does it suggest using an RF tracking means 12 and visual tracking means 18 on or in an integrated circuit.

The cited references also fail to suggest any reason for combining their respective teachings. For example, the Beffa patent does not disclose any shortcomings in the disclosed programming of integrated circuits with identifying information that would motivate one skilled in the art to seek out the teachings of Markman. Nor does Markman disclose any reason why one skilled in the art would contemplate using the disclosed techniques for integrated circuits or even that there would be any reason to associate the RF tracking means 12 with the visual tracking means 18 in a situation in which they were not correlated to a trackable unit, such as an article of clothing.

Turning, now, to the claims, all of the claims patently distinguish over the cited references. For example, claim 1 of U.S. Patent No. 5,984,190 specifies a method of identifying integrated circuits formed on a common substrate in which each of the integrated circuits is programmed with respective electronic identification information. This electronic identification information distinguishes the integrated circuits from each other. Claim 1 also specifies marking each of the integrated circuits with respective optical identification code, “which corresponds with the respective electronic identification information.” As mentioned above, none of the cited references teach or suggest both electronically programming an integrated circuit with electronic

identification information and marking the integrated circuit with corresponding optical identification code. Claim 1 further specifies reading the optical identification code and “accessing a lookup table to associate the optical identification code on each of the integrated circuits with the corresponding electronic identification information.” Again, the Beffa patent teaches only electronic identification information or optical markings, but not both, and neither of the cited references suggest that optical identification code should be associated with electronic identification information, and they certainly do not disclose or suggest using a lookup table for this purpose. If the computer system described in the Markman patent did use a lookup table to associate any two items of information, it is clear from the specification than one of these items of information would be the trackable unit and the other item of information would be either the RF tracking means 12 or the visual tracking means 18 associated with the trackable unit. There is no suggestion in the Markman patent of using a lookup table that correlates the RF tracking means 12 to the visual tracking means 18. Claim 1 is therefore clearly patentable over the cited references.

Patent claim 6 is directed to a method of identifying a plurality of substantially identical integrated circuits formed on a common substrate each of which includes a programmable circuit for storing respective electronically readable identification code. The claim specifies marking each of the integrated circuits with respective optical identification code and then using a lookup table to associate the optical identification code with the respective electronically readable identification code read from the integrated circuit. As explained above, none of the cited references disclose or suggest the use of a lookup table that associates these two identification means to each other.

Patent claim 10 is directed to a wafer comprising a plurality of dies each of which includes an integrated circuit having both a programmable identification circuit that stores identification data and an optical identification mark positioned on the die. Significantly, the optical identification mark encodes information corresponding to the identification data stored in the identification circuit. As further specified in claim 10, the optical identification mark on each die is accessed through a lookup table to correspond to the electronic identification information. As explained above, none of the cited

references teach this concept. For example, the Markman patent does not disclose a lookup table correlating the RF identification means 12 with the visual identification means 18, both of which are placed on integrated circuit die.

Patent claim 14 is directed to a plurality of integrated circuit chips each of which includes a housing enclosing an integrated circuit that contains an identification circuit storing identification data. As also recited in claim 14, an optical mark is positioned on an exterior surface of the housing and encodes identification information accessed through a lookup table to correspond to the identification data.

The final independent patent claim is claim 19, which is directed to a method of identifying a plurality of substantially identical integrated circuits formed on a common substrate. The claimed method includes programming each of the integrated circuits with respective electronic identification information, and marking each of the dies with optical identification code. Again, the optical identification code corresponds with the respective electronic identification information. In accordance with the claimed method, the optical identification code and the electronic identification information are read, and a lookup table is accessed to associate the optical identification code with the corresponding electronic identification information. As explained above, none of the cited references, taken either alone or in combination, suggest this concept.

The claims in this application being added by reissue also patently distinguish over the cited references. Claim 23 is directed to a method of identifying an integrated circuit by programming the integrated circuit with electronic identification information and also marking the integrated circuit with an optical identification code. Again, the claim specifies the optical identification code corresponds to the electronic identification information. The electronic identification information is then read and cross-referenced to the read electronic information to associate the optical identification code with the corresponding identification information. None of the cited references, including the Markman patent, disclose or suggest both marking an integrated circuit with of optical identification code and programming the integrated circuit with electronic identification information. Therefore, they certainly do not suggest cross-referencing or associating the optical notification code with the electronic identification information as specified in claim 23.

Method claim 28 is directed to a method of identifying an integrated circuit that includes a programmable circuit for storing electronically readable identification code. The claimed method includes marking the integrated circuit with an optical identification code. The electronically readable identification code is read and compared to the optical identification code to associate the optical identification code with the electronically readable identification code. For the reasons explained above, these limitations patentably distinguish over the cited references.

The final independent claim, claim 32, is directed to integrated circuit chip mounted within a package. An identification circuit is fabricated on the integrated circuit chip and is operable to store identification data. An optical identification mark is also placed on the package of the integrated circuit. Significantly, the optical identification mark encodes information corresponding to the identification data. As explained earlier, while the Markman patent may disclose RF identification means 12 and visual identification means 18 on the same packet 14, it does not disclose placing the packet 14 in an integrated circuit. Nor does the Markman patent suggest using an optical identification mark to encode information corresponding to identification information stored in the identification circuit of an integrated circuit chip.

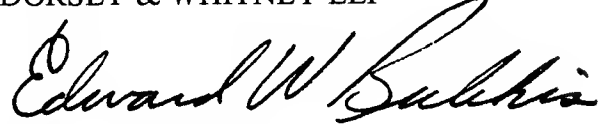
The claims dependent on the above-discussed independent claims also patentably distinguish over the cited references because of their dependency on patentable independent claims and because of the additional limitations added by those claims.

The final issue is the defectiveness of the reissue declaration. According to be Office Action, the declaration does not allege that all errors up to the filing of the declaration arose without deceptive intent. The applicant does not disagree with the Examiner's position, but requests that this requirement be held in abeyance until the next Office Action when a new declaration will be filed.

All of the claims in the application, *i.e.*, claims 1-34, are clearly allowable. Favorable consideration and a Notice of Allowance (subject to the filing of a new reissue declaration) are therefore earnestly solicited.

Respectfully submitted,

DORSEY & WHITNEY LLP

A handwritten signature in black ink, reading "Edward W. Bulchis". The signature is fluid and cursive, with the first letter of each name being capitalized and prominent.

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Enclosures:

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